Remarks/Arguments

Claims 1-11 and 13-22 remain in this application.

Claim 1, and all remaining claims by virtue of dependency, had previously been amended by the Applicant to recite the limitation of prior claim 25, that the mapping of the at least two entities onto a surface is "by two-way document/topic iteration logic" in the Applicant's May 17, 2004 reply to Office action of December 15, 2003. After considering this amendment, the Examiner again rejected all claims, asserting that Cox et al., US Patent no. 5,751,931, teaches the step of "two-way document/topic iteration logic" and thus provides the basis for anticipation under 35 USC 102 (e). The purpose of this Request for Continued Examination is to explain to the examiner why the examiner's understanding of Cox is in error, thereby giving the examiner the opportunity to abandon the examiner's reading of Cox, or, in the alternative, narrow the issues for appeal should the examiner persist in asserting that Cox et al., US Patent no. 5,751,931, teaches the step of "two-way document/topic iteration logic" and rejecting the claims under 35 USC 102 (e).

It is well settled law that the applicant is free to act as his own lexicographer in drafting patent specifications. It is also well understood that terms used in the claims must be given the meaning set forth in the specification, as the specification "acts as a dictionary" for words used in the claims. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576 (Fed. Cir. 1996). Accordingly, it is well settled law that the term "two-way document/topic iteration logic" as used in claim 1, and all remaining claims by virtue of dependency, should be given the meaning set forth in the specification. The specification provides this meaning within a lengthy discussion of the process used by the present invention for parsing databases beginning at page 7, line 16 and concluding at page 13, line 54. The specific description of how "two-way document/topic iteration logic" fits

into the general parsing scheme is located in the paragraph bridging pages 7 and 8, which reads as follows:

> Once the entities are selected, the next step is to place them on a surface. In a preferred embodiment, the entities are represented as small dots on a two-dimensional plane. Their location is determined using a two-way document/topic iteration logic (TWIDL). This method is faster than SPIRE and provides better grouping compared to SPIRE. Iteration may begin either with topic vectors or documents vectors; the former is described here. Each topic is given a topic vector; the initial topic vectors are arbitrary, and preferably unique. Next each document is given a document vector. For a given document, the document vector is the sum of each topic vector multiplied by the number of times that topic occurs in the document. Next each topic is given a new vector in the same manner: The topic vector is the sum of each document vector multiplied by the number of times the topic occurs in that document. The process continues iterating; the number of iterations is preferably less than 5 and more preferably 2 or 3. Optionally, there may be a vector normalization between iterations. A principle components analysis of the resulting topic vectors provides planar locations for them. Additionally, K-means clustering techniques can be used to determine clusters of these entities.

The examiner asserts that "Cox teaches mapping is by two-way document/topic iteration logic" and further asserts that this teaching is located at col. 13, line 32 to col. 14, line 30. However, given the applicant's definition and description of "two-way document/topic iteration logic" contained within the specification, the examiner's explanation of how Cox teaches the same concept is so completely incongruent as to be meaningless. For example, the examiner asserts that Cox teaches topic iteration logic "by disclosing determining callback function." The examiner states that "the callback function is a type of topic iteration logic since it's used to check a flag, which is indicated whether a particular function is done."

Even if the examiner's description of Cox teaching is correct, it is entirely unconnected to two-way document/topic iteration logic. Where does Cox reference any vectors? Where does Cox reference any topics? Cox makes no mention whatsoever of these steps, and the examiner doesn't even bother to assert otherwise. Instead, the examiner states:

> For example, Cox discloses the first of these callbacks to be performed occurs when the windowing system main loop function does its own initialization, which causes the -windowing system objects to be initialized and the window to appear on the display monitor. This in turn causes the OnWindowCreate callback function of each application code object to be called as represented. The only object with an OnWindowCreate function is the GlobeDrawer object. In that, the application code consists of initialization code and a number of callback functions. The program performs the initialization and then turns control over to the windowing system. The windowing system reacts to user inputs by invoking the callback functions of the application code.

Again, even assuming the examiner has accurately characterized the Cox disclosure, the examiner's discussion has nothing whatsoever to do with two-way document/topic iteration logic. The point of two-way document/topic iteration logic is that the meaning of words used in documents is determined by applying mathematical functions to the words in the documents. The meaning is then used to cluster the documents on the display. As described by the applicant, this process begins when vectors are assigned to the topics and to the documents. Cox doesn't assign vectors to anything. The examiner's recitation of Cox doesn't even suggest that Cox teaches as such. The applicant is thus entirely at a loss to understand how the examiner feels as though a prima facie case of anticipation has been made by the examiner's discussion of Cox using callback functions and a windowing system.

As described in the specification, in two-way document/topic iteration logic, for a given document, the document vector is the sum of each topic vector multiplied by the number of times that topic occurs in the document, each topic is given a new vector in the same manner: The topic vector is the sum of each document vector multiplied by the number of times the topic occurs in that document. Where in the examiner's recitation of Cox are there steps that even remotely approximate this process? The examiner states that "the application code consists of initialization code and a number of callback functions" as though this were somehow relevant to the mathematical steps outlined in the applicant's specification. However, the two have absolutely nothing to do with one and another, and the examiner has not even made an effort to show otherwise.

As described in the specification, in two-way document/topic iteration logic, "the process continues iterating; the number of iterations is preferably less than 5 and more preferably 2 or 3. Optionally, there may be a vector normalization between iterations. A principle components analysis of the resulting topic vectors provides planar locations for them." Where does Cox remotely address these steps? The examiner simply states that "the program performs the initialization and then turns control over to the windowing system. The windowing system reacts to user inputs by invoking the callback functions of the application code." The examiner has again not even attempted to show how the steps set forth in the specification that define two-way document/topic iteration logic are present in the Cox disclosure. Instead, the examiner has simply recited completely unrelated features of the Cox disclosure, without making any attempt whatsoever to show how those features are related to two-way document/topic iteration logic.

In the Applicant's May 17, 2004 reply to Office action of December 15, 2003, the applicant explained that Cox et al. is entirely unconcerned with any method whatsoever for mapping entities wherein the entities are derived from document based databases, as is inherent in the step of mapping entities onto a surface by two-way document/topic iteration logic. The applicant went on to note that Cox's entities, or "nodes" as they are termed by Cox, are physical entities, such as physical locations in a network, or switches

on a network, and that Cox simply maps these nodes as they exist in the physical world. The examiner has not disagreed with any of these assertions.

The applicant then noted that in each and every description and example shown by Cox, the physical attributes of the network define the nodes of the graphical display, and Cox is thus entirely unconcerned with any analysis of the entities to determine how they are to be mapped on the surface. The applicant pointed out that Cox simply maps them as they are laid out in the physical network, which is a perfectly logical approach when mapping out a graphical representation of a network. Again, the examiner has not disputed this at all.

The applicant then made clear that the present invention, as claimed in amended claim 1 and all remaining claims by virtue of dependancy, no analogue to Cox's physical network exists. As explained by the applicant, the entities that are mapped on the surface in Cox are not temporal in nature. While they might include descriptions of real objects, places or people, as entities that are to be represented in the graphical display, they exist merely as concepts, contained within in written documents, which are then analyzed according to the method of the present invention. Thus, unlike Cox, their relative positions are not fixed in advance through some physical analogue like a network, and the present invention must provide some method for determining the relative positions of these entities, or nodes, in a graphical representation. Again, the examiner has not even attempted to refute any of this explanation.

The applicant then noted that Cox is not confronted with this problem, and, not surprisingly, nowhere does Cox remotely consider any method whatsoever for determining the positions of the nodes in the graphical representation, other than simply using the actual physical layout of the networks Cox is representing in Cox's graphical display. The applicant noted that nowhere does Cox remotely consider any method whatsoever for mapping entities onto the surface (creating nodes) in any manner that considers in any way other than the temporal relationship between the nodes as they exist

in the physical world. Since Cox is unconcerned with mapping entities such as document databases onto a surface, Cox has no reason to remotely consider techniques for mapping them, such as "two-way document/topic iteration logic," as is now claimed in claim 1, and all remaining claims by virtue of dependency.

The examiner has now recited that Cox teaches this mapping. However, as shown above, this assertion by the examiner is plainly in error. When comparing the applicant's explanation of two-way document/topic iteration logic as contained in the specification to the examiner's explanation of Cox teaching, the two are entirely distinct. The examiner has not so much as even attempted to draw parallels between the steps set forth in the specification and the steps taught by Cox. Even if everything the examiner says about Cox is assumed to be true, it is still irrelevant to two-way document/topic iteration logic as that term is used in the applicant's specification and claims.

As it is axiomatic that a proper rejection under 35 U.S.C. 102(e) must contain each and every limitation of the claim, ("[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration" W.L. Gore & Assocs. V. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983), Cox cannot provide the basis for a rejection of claim 1, and all remaining claims by virtue of dependency. Cox does not remotely teach the step of "mapping the at least two entities onto a surface by two-way document/topic iteration logic." Accordingly, the applicant respectfully requests that the examiner withdraw her rejection of claim 1, and all remaining claims by virtue of dependency, and allow the claims to issue.

Closure

Applicant has made an earnest attempt to place the above referenced application in condition for allowance and action toward that end is respectfully requested. If the not allowed, the applicant respectfully requests that the amendments to the claims set forth herein nevertheless be entered into the record. Should the Examiner have any further observations or comments, she is invited to contact the undersigned for resolution.

Respectfully submitted,

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The undersigned hereby certifies that the forgoing Amendment dated December 9, 2004 in reply to the final office action of August 10, 2004, together with PTO Form PTO SB30 (Request for Continued Examination Transmittal) and a return postcard are being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on the date set forth below.

_____ _____

Douglas E. McKinley, Jr. Date
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